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Examining the Intertwined Spatial Relationships in Food Retailing: The Case of Second Life

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Abstract

This paper analyses the evolution of food retailing and describes how metaverses impact on it considering that retailers could be present in three different, but intertwined spaces. Our analysis deals with the major promotional issues, challenges and opportunities faced by traditional retailers, e-retailers and metaverse food retailers and the case of Second Life, a popular metaverse, is examined. A major finding is that retailers should apply a holistic approach when developing their promotional strategies aiming to have a presence in all three spaces. The authors suggest the pressing need for food policy development and stress the promotional and transactional potential that metaverses provide to other agri-food chain members including SMEs and manufacturers.

Keywords: food retailing, metaverses, virtual worlds, Second Life, marketing and promotion

Introduction

It is well-established that the nature of the modern economy has moved from an industrial-based economy to being an information-oriented economy. This is reflected by the increasing role of the informational elements of our products, services and processes and by the increasing amount employees spend on information activities. The 'ICTs revolution' has facilitated this shift with a plethora of applications which capture, store, retrieve, manipulate, transmit and present information. Subsequently, information and knowledge has emerged as a key resource for both public and private sector organisations that need to adapt and change if they wish to survive in this new economy. The latter advocates the development and construction of new management theories that will be related to many industries and sectors (Li, 2007). In our case, past theoretical frameworks have examined two spaces, the physical 'offline' one and the online one. Nevertheless, new virtual spaces and environments, often referred to as metaverses, create an extra space where both economic and social activities can take place.

The current paper analyses the ways individuals and organisations operate in these intertwined spaces, focusing on traditional, electronic and metaverse food retailing. In particular we will examine promotion and advertising and the challenges and opportunities when it comes to metaverse food retailing. We commence our examination by presenting important background information about metaverses and their development. This is followed by an illustration of the transition from traditional food retailing to electronic food retailing (e-retailing) and then to metaverse food retailing. We then shed light on retail promotion in multiple spaces.

The New Business Environment of Multiple-Spaces

A range of developments including the telephone, computer networks, the Internet and mobile phones have largely influenced the business and social environment and subsequently, we are experiencing the co-development of an electronic space, which intertwines with the physical space and place of our physical world (Li, Whalley, & Williams, 2001). The creation of these intertwined 'two spaces' – the physical and the electronic space – is evident in the accelerating development of e-commerce and e-business and in the way people live, work, communicate, learn and play (Li, 2007). The development of electronic space has generated many activities known as part of e-commerce, e-business, e-government and e-learning, and these have resulted in a new generation of organisation and management theory, reflected clearly by the introduction of the 'e' prefix to distinguish activities taking place in the electronic space, as shown in Table 1. Papagiannidis et al (in Press) suggest that Table 1 should be further expanded by the inclusion of the prefix 'meta', short for metaverse. Metaverses is a phrase introduced by Neal Stephenson's (1992) novel Snow Crash to show how a virtual reality-based Internet could evolve in the future. Metaverses are virtual worlds expanding the current physical universe by adding extra dimensions and domains for a range of activities (Papagiannidis et al., in press). These are often referred to as synthetic worlds, noting the fact that these worlds are products of human actions (Malaby, in press).

Table 1. I	Developing	the traditional	taxonomy	with the	e inclusion	of the	'meta'	dimension
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	Real	Electronic	Meta
Real	B _r 2B _r	B _r 2B _e	$B_r 2B_m$
Electronic	B _e 2B _r	B _e 2B _e	B _e 2B _m
Meta	$B_m 2B_r$	B _m 2B _e	$B_m 2B_m$

Source: Adopted from Papagiannidis et al (in Press).

Metaverses were initially games known as massively multiplayer online role play games (MMORPGs), and quickly became alternative realities, implying that they extended the physical and electronic spaces. Considering the large number of people and time spent in metaverses, we argue that a new environment is created which incorporates the physical, the electronic and the multiple virtual spaces. The interactions between the players of these games, both in-world and real-world, are on the increase, whilst the economic and social crossings-over between the virtual, the electronic and the physical worlds have already become significant. These issues also suggest that the new multi-spaced business environment has become far more complex than what we are used to. At the same time, this new business environment needs to be systematically mapped out and conceptualised, as the economic, social and policy implications are likely to be very significant. Metaverses have become a key area of research that is generating academic interest from many disciplines, including psychological studies (Yee, 2006a, 2006b), economic and business studies (Castronova, 2005a; Papagiannidis et al., in Press), legal studies (Bartle, 2004), industry specific studies, e.g. in the music industry (Berry & Papagiannidis, in Press), marketing studies (Castronova, 2005b; Papagiannidis et al., 2007), and studies looking at the development of metaverses and their attributes (Lehdonvirta, 2005a, 2005b; Manninen & Kujanpää, 2007).

According to BBC (2007), the virtual world market is a billion US dollar industry and that income is normally generated by subscriptions paid to participate in MMORPGs. The MMOR-PGs are themed worlds such as *World of Warcraft, EverQuest, EveOnline, Star Wars Galaxies* and *Second Life*. These MMORPGs define the roles users need to assume and the actions they need to take and at the same time they encourage free style role playing.

The current paper examines Second Life, a world designed to offer users control over nearly all aspects of their world aiming to increase users' creativity and self-expression (Ondrejka, 2004). Second Life has been selected for the fact that it provides users with the ability to create objects from scratch, and not just to craft them out of limited resources that are normally managed and monitored by the world's developers. Another major fact is that the copyright developed by users belongs to the users themselves, who may exploit it commercially. The currency used in Second Life for any commercial transaction is the Linden Dollar, which was introduced by Linden Labs, the developers of Second Life. Linden Dollars can be exchanged for real currency, offering content creators the opportunity to benefit not only within Second Life, but also in the real world. Another issue is that no licence is needed to run a business in Second Life; hence, it is very difficult to estimate who is trading and how successful the virtual entrepreneurs are. Despite the above, Linden Labs makes use of the Positive Linden Dollar Flow (PMLF) to get an estimate of how many of the more than 11 million users of Second Life are 'business owners' (see Table 2). It is noteworthy that those who earned less than \$10 USD account for half the estimated business owners; nevertheless, a large number of entrepreneurs who make a respectable profit by real world standards exists. This environment, which operates under low entry barriers, could become a separate employment opportunity for specific economies and regions such as developing countries where even a few dollars made every month can make a difference for the local residents.

Table 2. Assessing the Amount of Second Life B	usiness Owners using Positive Monthly Lin-
den Dollar Flow (PMLF)	

USD Equivalent PMLF	06/07	07/07	08/07	09/07	10/07	11/07
< \$10 USD	23,159	24,292	22,185	23,336	24,132	25,591
\$10 to \$50 USD	11,544	12,540	12,281	12,811	15,213	14,156
\$50 to \$100 USD	2,697	3,006	2,929	3,001	3,528	3,145
\$100 to \$200 USD	2,040	2,149	2,089	2,131	2,477	2,210
\$200 to \$500 USD	1,685	1,788	1,711	1,814	1,984	1,848
\$500 to \$1,000 USD	645	727	681	683	872	820
\$1,000 to \$2,000 USD	422	441	391	432	473	484
\$2,000 to \$5,000 USD	273	279	295	285	320	297
>\$5,000 USD	132	145	129	138	157	154
Total Unique Users with PMLF	42,597	45,367	42,691	44,631	49,156	48,705

Source: Second Life Economic Statistics (Linden Labs, 2007)

Based on the above, it is not surprising that a range of real world firms have a presence in Second Life, representing many sectors and markets. Some of these include ABN AMRO, Adidas, American Apparel, Dell, Harvard Law School, IBM, Microsoft, Pontiac, Reuters, Sony Ericsson, the Swedish Government, Toyota, to mention a few. These firms normally engage with customers for marketing purposes (e.g. holding events, giving away freebies, or offering interactive activities related to their brand). At the same time, many firms offer content on thirdparty web marketplaces that enhance the transaction between the seller and the buyer. Linder dollars are transferred by the customer to the web marketplace and then these dollars are used to purchase content, as is normally the case when shopping online. Following the completion of the purchase, the content is delivered to the avatar (the virtual character representing the user) in Second Life. Some of the most popular items include apparel, furniture, animations and buildings. A key question, which could be addressed in another paper, emanating from the previous discussion is whether these activities (e.g. selling virtual apparel or furniture) can be considered a retailing activity or not as the purchase involves a digital, intangible reflection of the real item. In this paper we focus on the gradual evolution of food retailing from traditional retailing to electronic and then to metaverse food retailing, leading to the creation of multiple space retailing.

Food Retail Evolution: From Traditional to E-Retailing to Metaverse Food Retailing

Tiernan (2000) suggests that e-retailing has transformed retailing via the introduction of new technologies such as the Internet, and Chaston (2001) indicates the resultant impact on many key aspects of the shopping experience. For example, the major aspects of product atmospherics (e.g. smell, taste, touch) are prevalent in traditional food retailing, as the consumer can trial a product, which boosts consumer confidence, especially when the consumer is not familiar with the product (De Kare-Silver, 2001). However, consumers do not have that opportunity in e-retailing, resulting in products being returned as customers may not to be satisfied with their quality or features. This may be the case, *inter alia*, for fresh fruit and vegetables, which may not be in the optimum condition that the consumer requires. Another dimension is that traditional food retailing applies to all consumer segments whilst e-food retailing may appeal more to those seeking convenience (De Kare-Silver, 2001) notwithstanding the users' exposure and knowledge of the technologies involved, which may affect their choice of preferred channel (Dhola-kia & Chiang, 2003). Younger consumers who grew up using the Internet are more familiar with e-retail compared to older consumers (Dennis, Fenech, & Merrilees, 2004). In addition, e-retailing offers many opportunities and challenges to food retailers.

Firstly, e-retailing could decrease the investment needed or even transform the nature of capital investments. For example, instead of managing hard assets, retailers nowadays manage information by collecting, storing and using customer data and build the IT and knowledge infrastructure facilitating the transacting channel. Subsequently, the skills and competencies demanded vary from traditional retailing, where store location, logistics, and people selection and their management have been contributing to retailers' success. E-retailing is focusing on ITenabled logistics or e-supply chain management, which encompasses order processing, customer relationship management and interconnectivity (De Kare-Silver, 2001). On top of the above, the challenges experienced by traditional food retailers are not the same compared to the ones that e-retailers face. Traditional food retailers face stock management issues (e.g. out of stocks, small choice), the continuous personal interaction with customers, the large cashier queues, the immense competition and getting the store atmospherics right for their customers. On the other hand, e-retailers face another set of challenges, including product delivery on time, looking ahead for the latest innovations and technological trends, developing new performance indicators to evaluate their performance, maximising security for consumer transactions and providing the right 'e-atmosphere' for their digitally connected customers (Kearney, 2000). The above is the outcome of different kinds of operations as traditional food retailers operate during a specific timeframe, implying that they need to get the store right during that time. Size is critical and labour costs can be considerable (De Kare-Silver, 2001). E-retailers operate on a 24/7 basis, size is of lesser importance and labour costs are lower compared to traditional food retailers. In terms of the risks involved, Vijayasarathy and Jones (2000) stress that types of risk related to economic, social, performance, personal and privacy matters are applicable to eretailing and note that the first three only are applicable to traditional retailing. At the same time, the boundaries between traditional and electronic food retailers are not always clear and many food retailers, such as Tesco, can run both traditional and e-retail operations simultaneously and be very successful on both fronts.

Metaverse retailing

Retailing located in metaverses is called metaverse retailing and it is a phenomenon that may initiate the next evolution of retailing in a three dimensional environment, creating opportunities for current and new retailers. Metaverse retailing can be regarded as an evolution of e-retailing (see Figure 1).



Figure 1. Evolutionary Retailing: Moving from Retailing, to E-Retailing to Metaverse Retailing

Kotler and Armstrong (2007) note that consumers normally search for the right food product in terms of price and value (product-oriented, traditional retailing stage in Figure 1). Responding to this, food retailers offered the right product for the right consumer (segmentation strategy) and over the years, they applied a customer-oriented strategy. The latter strategy is apparent via the development of the different stages / levels for own brands, where food retailers aim to meet the demands of various customer segments (Laaksonen & Reynolds, 1994). These retailers evolved their strategies whilst the e-food retailers developed and applied customer relationship management techniques employing the web extensively and by targeting specific customers, by using emails and specific promotional tools such as electronic coupons and offers (see for example, Feinberg and Kadam (2002)). Figure 1 shows that, currently, we are dealing with consumers who are 'experience-oriented' or consumers looking for a new and unique experience that metaverses, like Second Life, could potentially provide. This phenomenon has been named 'retail theatre' in the traditional retail literature (Harris et al, 2001) to illustrate how retailers offer a service that is unique and consumers appreciate the opportunity to engage and participate in this type of experience. They do not anticipate consuming a product or service, but they ex-

pect to interact with it and to experience it as part of the three dimensional online environment. This unique multi-space environment requires a pervasive approach to retailing (see Figure 1), demanding that retailers make use of a number of promotional methods to approach consumers anytime and anywhere (both online and offline). Therefore, treating each space in isolation may not be a successful choice considering the interconnectivity between spaces that creates the more exciting propositions. This was already shown when the physical and online stages were brought together providing synergies for food retailers to explore. The metaverse environment could capitalise on these synergies by being connected to current Internet-based systems and being supported by the established infrastructure. For example, web-based services such as a social networking service and a search engine targeting metaverse users have also appeared. The 3D environment could increase the user experience without disrupting existing services, which could keep running simultaneously. Therefore, instead of going to Tesco's website, a user could visit the virtual supermarket, get a shopping basket as in real life, and browse among the aisles, selecting the products required. These products could be offered to the shopper as 3D objects, making the experience more realistic, or could be displayed as images on the shelves, resembling what is happening on the website. Nevertheless, the experience of physically visiting the grocery store, even if this only exists in a virtual world, could provide an improved shopping context compared to that of a website. At the same time, 'traditional' web-based retailing could be a faster and more convenient retail medium for the customer, who may favour it over a more context-rich approach. Despite the above, by using both the web and metaverse environments, food retailers have the ability to offer consumers the choice of retail space. They could decide based on personal preferences and circumstances, which is the same as favouring to shop offline or online.

Nor should we forget that virtual worlds have many limitations. One of these is that Second Life provides an extra level of technological complexity, which, although it could increase the experience of customers, could result in confusing others. This reminds us of the early days of the web, when it was quite a novelty to shop online. Nevertheless, user-friendliness and navigation aspects will necessitate particular attention, as controlling an avatar in the virtual supermarket aisles might not be as easy and straightforward as may have been anticipated. The latter is the case for accessibility issues, which could be even more complicated. On top of this, designing three dimensional representations of thousands of grocery products can be an onerous task in terms of time and cost, while security concerns are still relevant. It is worth clarifying that in Second Life there is a built-in transacting model on which the in-world economy is based. But using one company to check, regulate and monitor the economy may not be appealing to all retailers, who are used to or may prefer alternative transacting models. If metaverse retailing was to extend to real world products, direct payments between the retailer and the consumer could be made in real currency and not the Linden dollar to minimise potential confusion over exchange rates. Another aspect is that depending on one company to maintain that virtual world may not be appealing to retailers either. For example, what would be the repercussions if Linden Labs made a decision to stop running Second Life or even just went bust? Last but not least, the actual technology will have to mature before it could support retail applications that involve thousands of products.

Retail Promotion in Multiple spaces

Figure 1 identifies the possible use of various promotional tools at the various evolutionary stages and it can be suggested that it also illustrates the evolution of promotional tools applied by retailers over the years. This section will analyse these tools and describe how they could possibly be used by traditional, electronic and metaverse food retailers.

Specifically, one of the first promotional tools used by retailers has been direct marketing with traditional store-based food retailers using various promotional tools including tokens, coupons, gifts, bogofs (McGoldrick, 2002). In addition, retailers make use of loyalty cards which provide points (and incentives) to consumers during product purchasing (Wright & Sparks, 1999) but at the same time, these retailers exploit their loyal consumers' habits and capitalise on their repeat purchasing situations. The above tools are employed by e-retailers, which try to exploit further any cross-selling opportunities provided by the Internet. They also aim to make price comparisons and develop their website to become as appealing as possible. Second Life food retailers have a more challenging task as they need to make a three dimensional space an appealing place to shop. Traditional food retailers have experience of managing the retail atmospherics, which may not be applicable for food retailers operating in Second Life. The same applies to more established traditional food retailers, which may find the conversion of the traditional atmospherics in Second Life a challenging task. On the other hand, Internet food retailers develop personalised promotional campaigns to increase their chances for success notwithstanding that a coordinated approach for delivering personalised messages and tracking the whole process is still too cumbersome. Despite the above, Internet users develop accounts and profiles to get access to retail products and services, which are in turn used to personalise them and provide a platform for the delivery of targeted promotion. Even when profiles are not available, the users' interaction with an Internet retailer, e.g. a search facility, provides a plethora of opportunities to deliver targeted messages. These profiling techniques could be applied in Second Life in a range of ways. Users browse through furniture in a virtual shop and a tracking system could find the furniture products that users spent their time looking at and testing. Following that, the system could recommend and give a discount in the form of automated assistance if the user has been identified as a previous customer. Other techniques that can be employed by Internet food retailers include (van Amstel, van der Eijk, Haasdijk, & Kuilman, 2000):

- rules-based matching (club members, frequent visitors, etc.) (e.g. Tesco.com)
- matching agents (established profile can be matched with other profiles displaying similar purchasing behaviour) (e.g. Amazon)
- collaborative filtering (feedback on products and services defines groups of individuals with similar interests) (e.g. Amazon).
- community ratings (e.g. like those used on E-bay)
- feedback and learning (fields of interest)
- attribute searches (e.g. all books with reduced prices)
- full-text search based on keywords provided by the user

Viral marketing is also gaining momentum. This is an Internet-related promotional phenomenon where a message 'infects' a market and is spread from node to node in the network as the Internet connectivity makes it an ideal platform for viral campaigns. In viral marketing, the recipient of an advert decides also to whom the message is relevant and forwards it. Many food firms such as Procter & Gamble and Unilever have used viral marketing techniques as part of their promotional strategy (Marsden, 2006). Second Life could become a prime candidate to run similar viral campaigns and currently an indirect viral method is being employed to attract users to a Second Life region. Retailers give users a few Linder Dollars in return for their presence in their area for a specific time. So, a retailer pays 20 Linden Dollars per 30 minutes to any avatar willing to engage in any activity related to the retailer's business, such as dancing or even sun bathing next to a pool. In Second Life, users check the map to see how many users are present and subsequently, they visit that area.

Retailers could also employ similar promotion techniques to what has been promised by the latest mobile phones services and more specifically location-based services. For example, popular mobile portals such as Vodafone Live! can approximately locate a phone's position and provide relevant information for any retailer including Pizza Hut or even grocery ones (Papagiannidis, Carr, & Li, 2006). In the future, localised wireless technologies could provide far more precise location positioning services, targeting users that carry their mobile devices most of the time (Papagiannidis & Bourlakis, 2007). This becomes critical if we consider that in 2003, 67% of the 'young communicators' in the UK mentioned that they could not live without their mobile phone (Mori, 2002). This implies that mobile phone have become an invaluable tool that provides unlimited promotional opportunities to retailers: "While it is undoubtedly an effective oneto-one communications channel that can be easily personalised, it is also an invaluable conduit for pulling together strands of any multimedia marketing and/or marketing campaign. It is a ubiquitous and immediate point of convergence that has an enviable reach if used responsibly and effectively" (Kerckhove, 2002). Retailers should remember, though, that a continuous bombardment of messages can become annoying for customers (Haig, 2001). The above is relevant for metaverses when a user visits busy retail areas as automated systems sense the user's presence and deliver 'notecards' that provide information about a range of products and services. Of course, the user may opt to mute the automated agent but having to do so a number of times becomes frustrating.

Following the previous analysis, it becomes obvious that retailers employ a range of promotional tactics for individual spaces and that we are nowadays facing multiple spaces that are intertwined, interconnected, multifaceted and integrative. Promotional strategies developed by retailers should include an overarching and holistic approach by considering the various spaces that the retailer operates in. Retailers should also appreciate that they are dealing with another type of consumer who is experience-oriented and subsequently, their traditional retail marketing mix strategies will have to be adjusted to also accommodate the new metaverse environment.

Conclusions and Future Research

Our paper raises a range of research questions. For example, how does the consumer react to alternative food retail levels, from traditional to e-retailing to meta-retailing? In addition, we need to consider the corporate dimension as a successful traditional store retailer may not necessarily be successful at e-retailing or even at metaverse retailing. Further research needs to identify the key elements for achieving success at all these three levels simultaneously although it may not be operationally feasible or financially sustainable.

Similarly, which type of promotion can work equally at all stages and can be successful at all stages of that evolution? Which type of promotion can generate better awareness of the retail products and services involved? Metaverse retailing may not necessarily be the ideal stage to be part of, as happened with many traditional retailers which encountered problems moving to e-retailing. Other food retailers, like Tesco, have been successful in both store and e-retailing and we could argue that they could be equally successful in metaverse-retailing. But it is questionable which retailers will have bigger chances to succeed in Second Life. Will it be the 'traditional' retailers, the e-retailers or the ones who have been successful in both stages?

To conclude, the current paper has also unveiled the urgent need for policy development. For example, will retailers making sales in Second Life be taxed on their profits? On top of that,

which regulatory body will oversee these retail sales and check whether they are correctly priced to avoid consumer exploitation? These present some of the major policy issues which require immediate attention.

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